

fluid 112 is decreased, the firmness of the resulting deformed particular region 113 will also decrease. As shown in FIGS. 7 and 8, as the pressure of the volume of fluid 112 is changed, size of the deformed particular region 113 may change due to the elasticity of the layer 110. In this variation, a change in firmness of the deformed particular region 113 may also be thought of as a change in the size and/or height of the deformed particular region 113. For example, as shown in FIG. 7, the pressure of the volume of fluid 112 corresponding to the deformable region is increased and the resulting deformed particular region 113 is both stiffer and taller than the original deformed particular region 113. In a second example as shown in FIG. 8, the pressure of the volume of fluid 112 is decreased and the resulting deformed particular region 113 is both less stiff and less tall than the original deformed particular region 113. In a third example, the pressure of the volume of fluid 112 corresponding to the deformable region is increased to increase the surface area of the deformed particular region 113. In this variation, the height of the deformed particular region 113 may change, but it may alternatively remain the same. However, any other suitable combination of firmness and size of the deformed particular region resulting from the manipulation of the firmness of the deformed particular region 113 in Step S140 may be used.

[0021] In a variation of the first preferred embodiment, as shown in FIG. 9, the step of manipulating the deformable region may include undeforming the deformed particular region 113 such that the particular region of the surface 113 is no longer deformed. In other words, the firmness and/or the height of the deformed particular region is “removed” or decreased to zero. This may be a useful tactile experience where the user is to select items from a list, for example, a check box or a “YES/NO” selection box to tactilely indicate to the user when a certain selection has already been made. However, any other suitable application of this variation of the first preferred embodiment may be used.

[0022] As shown in FIGS. 10-11, in the second preferred embodiment of the method S100, the tactile interface layer preferably includes a first and a second particular region 113a and 113b, and the force on the first deformed particular region 113a is interpreted as a command to undeform the first particular region 113a and to deform the second particular region 113b. Step S230, and the first and second particular regions 113a and 113b are manipulated based on the command Step S240. The first and second particular regions 113a and 113b may be substantially proximal to each other, for example, along the same face of the device. Alternatively, the first and second particular regions 113a and 113b may be substantially distal from each other, for example, the first particular region 113a may be on a first face of the device and the second particular region 113b may be on a second face of the device. In this variation, the first face of the device may include a display and the second face of the device may not include a display. However, any other suitable arrangement of the first and second particular regions 113a and 113b may be used. The force may alternatively be interpreted as a command to further deform the first particular region 113a and to undeform the second particular region 113b. However, any other suitable combination of deformation and undeformation of the first and second particular regions 113a and 113b may be used. The interpreted command may be to fully undeform the first particular region 113a and to fully deform the second particular region 113b, which may provide the user with a “rocker switch” type of experience, as shown in FIG. 10. In

this variation, both the first and second particular regions 113a and 113b may be located on the same device, for example, to provide a tactile experience where the user is to toggle between two selections for a particular, for example, “Audio ON” and “Audio OFF” to toggle a location within a game, for example, selecting tiles within the popular Minesweeper game. Alternatively, the second particular region 113b may be located on a second tactile interface layer 100 that is applied to a second device, where the second device is linked to the first device, for example, through the Internet, through a WiFi connection, through a Bluetooth connection, or any other suitable connection. Control of the second tactile interface layer 100 may be independent of the control of the first user interface 100; for example, the second particular region 113b may be deformed independently of the first particular region 113a. Alternatively, control of the second tactile interface layer may be linked to the control of the first tactile interface layer 100. This may be a useful tactile experience where the first device and the second device are transmitting tactile communication, for example, when a user using the first device creates a pattern by undeforming a pattern of deformed particular regions 113 and another user using the second device “sees” the pattern that the first user is creating deformable particular regions 113 corresponding to the undeformed particular regions 113 on the first device are deformed. This type of feature may be used in a gaming device or gaming application where a first player uses tactile communication with a second player. However, any other suitable application of a “rocker switch” type active response may be used.

[0023] Alternatively, the interpreted command may be to undeform the first particular region 113a to a particular degree and to deform the second particular region 113b to a particular degree, as shown in FIG. 11. The degree to which to undeform and deform the first and second particular regions 113a and 113b may be determined based on the detected attributes of the force. In a first example, the magnitude of the force may determine the particular degrees. In the variation where the tactile interface layer includes fluid 112 and a pressure sensor, the pressure increase within the fluid 112 may be used to determine the magnitude of the force. However, the magnitude of the force may be determined using any other suitable method, for example, the applied force may displace the volume of fluid 112 from one location within the fluid vessel 127 to another. The magnitude of the force may be determined by measuring the amount of fluid displacement. In a second example, the duration of the applied force may be used to determine the particular degrees. In the variation where the tactile interface layer includes a sensor that is a capacitive sensor, the presence of the finger of the user may be detected and the period of time for which the presence of the finger is detected may be used to determine the particular degrees. In a third example, the rate at which the force is applied may be used to determine the particular degrees. As described above, the volume of fluid 112 displaced by the applied force may be measured. In this variation, the rate at which the force is applied may be determined by detecting the rate at which the volume of fluid 112 is displaced. However, the particular degrees to which to undeform and deform the first and second particular regions 113a and 113b may be interpreted from the detected force using any other suitable method.

[0024] Additionally, the particular degrees to undeform and deform the first and second particular regions 113a and